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## REPORT ON MACHINERY.

No. 9247.

THU. FEB. 24. 1916

Port of *Middlesbrough*

Received at London Office

19

in Survey held at *Middlesbrough*Date, first Survey *1914 Nov. 27*Last Survey *February 15* 1916.

Book.

on the

*S.S. "Dartmeet"*(Number of Visits *7*)

Gross

Net

R. H. Beale

Built at *Zalt Bommel*By whom built *J. Meyer's S.B.C.*When built *1916*made at *Middlesbrough*By whom made *Richardsons, Westgarth & Co. Ltd. (No. 2243)*When made *1916*made at *do*By whom made *do*(No. 2243) when made *1916*

Horse Power

Owners *W. Ball Son*Port belonging to *Leimouth*Horse Power as per Section 28 *114*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *No*NES, &c.—Description of Engines *Triple Expansion*No. of Cylinders *3*No. of Cranks *3*Cylinders *15 1/2, 26, 44* Length of Stroke *30*

Revs. per minute

Dia. of Screw shaft

as per rule *9 1/4*Material of *Iron*screw shaft fitted with a continuous liner the whole length of the stern tube *No liner*

Is the after end of the liner made water tight

propeller boss *yes* If the liner is in more than one length are the joints burned *yes*

If the liner does not fit tightly at the part

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *yes*

If two

are fitted, is the shaft lapped or protected between the liners *yes*Length of stern bush *3-9*

Tunnel shaft

as per rule *7-9 1/4*

Dia. of Crank shaft journals

as per rule *8-3 1/4*Dia. of Crank pin *8 1/2*Size of Crank webs *5 1/2 x 16*

Dia. of thrust shaft under

as fitted *8 1/2*Dia. of screw *11-3*Pitch of Screw *14-6*No. of Blades *4*State whether moveable *No*Total surface *46 sq ft*Feed pumps *2*Diameter of ditto *2 1/2*Stroke *18*Can one be overhauled while the other is at work *yes*Bilge pumps *2*Diameter of ditto *3*Stroke *18*Can one be overhauled while the other is at work *yes*Donkey Engines *Two*Sizes of Pumps *6x6x10**4 1/2 x 3 x 4*

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *Three 2 1/2* In stokehold *Two 2 1/2* In Holds, &c. *Two 2 1/2* Forward hold, *Two 2 1/2*after hold. *One 2 1/2* in Tunnel wellBilge Injections *1* sizes *3 1/2* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 2 1/2*the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *None*connections with the sea direct on the skin of the ship *yes*Are they Valves or Cocks *Both*key fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the Discharge Pipes above or below the deep water line *Above*key each fitted with a Discharge Valve always accessible on the plating of the vessel *yes* Are the Blow Off Cocks fitted with a spigot and brass covering plate *yes*pipes are carried through the bunkers *Forward bilge suction* How are they protected *Wood ceiling*all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*of examination of completion of fitting of Sea Connections *8.10.15* of Stern Tube *8.10.15* Screw shaft and Propeller *15.12.15*Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Top platform*ERS, &c.—(Letter for record *(5)*) Manufacturers of Steel *John Spencer Sons & Co.*Heating Surface of Boilers *1733 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One S.E. by Mr. Muller*ing. Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *29.7.15* No. of Certificate *5541*each boiler be worked separately *yes* Area of fire grate in each boiler *55 1/2 sq ft* No. and Description of Safety Valves toboiler *Two direct spring* Area of each valve *7* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *yes*least distance between boilers or uptakes and bunkers or woodwork *11* Mean dia. of boilers *14-0* Length *10-0* Material of shell plates *Steel*ness *1 1/4* Range of tensile strength *29-33* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *BA Lap*seams *ABS 5 Rivet* Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *8* Lap of plates or width of butt straps *18*percentages of strength of longitudinal joint rivets *90.7* Working pressure of shell by rules *183 lbs* Size of manhole in shell *16 x 12*of compensating ring *34 1/2 x 29 x 1 1/4* No. and Description of Furnaces in each boiler *Three plain* Material *Steel* Outside diameter *3-6*h of plain part top *6-1 1/2* Thickness of plates crown *3 1/2* Description of longitudinal joint *Welded* No. of strengthening rings *yes*ing pressure of furnace by the rules *1914* Combustion chamber plates: Material *Steel* Thickness: Sides *3/16* Back *1/16* Top *1/16* Bottom *1/16*of stays to ditto: Sides *9 1/2 x 8 1/4* Back *9 1/2 x 8 1/4* Top *10 x 8 1/4* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *188 lbs*rial of stays *Steel* Diameter at smallest part *2.03* Area supported by each stay *82.5* Working pressure by rules *218* End plates in steam space:rial *Steel* Thickness *1 1/4* Pitch of stays *20 x 20* How are stays secured *butts* Working pressure by rules *180 lbs* Material of stays *Steel*ca at smallest part *7.02* Area supported by each stay *400* Working pressure by rules *183* Material of Front plates at bottom *Steel*ness *1* Material of Lower back plate *Steel* Thickness *3/8* Greatest pitch of stays *14 1/2 x 8 3/4* Working pressure of plate by rules *185 lbs*eter of tubes *3 1/4* Pitch of tubes *4 1/2 x 4 1/2* Material of tube plates *Steel* Thickness: Front *1* Back *3/4, 1/16* Mean pitch of stays *11 1/4*across wide water spaces *14 1/4* Working pressures by rules *191 lbs* Girders to Chamber tops: Material *Steel* Depth andness of girder at centre *7 3/4 x 1 1/4* Length as per rule *2-3 5/8* Distance apart *10* Number and pitch of stays in each *2 x 8 1/4*ing pressure by rules *209 lbs* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler workedately *yes* Diameter *yes* Length *yes* Thickness of shell plates *yes* Material *yes* Description of longitudinal joint *yes* Diam. of rivet*yes* Pitch of rivets *yes* Working pressure of shell by rules *yes* Diameter of flue *yes* Material of flue plates *yes* Thickness *yes*tiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*working pressure of end plates *yes* Area of safety valves to superheater *yes* Are they fitted with easing gear *yes*



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. *One* Description *See Glasgow Report No. 35147*

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *Two top & two bottom end connecting rod bolts & nuts. Two main bearing bolts & nuts. One set of coupling bolts & nuts. One set of feed & bilge pump valves. Propeller. Assorted bolts & nuts etc.*

The foregoing is a correct description,

Manufacturer.

*Richardsons, Westgarth & Co. Ltd.*

*W. Hall-Brown*

Dates of Survey while building { During progress of work in shops - { *1914 Nov 27 Dec 14 16 22 31 1915 Jan 7 13 25 Feb 1 9 17 19 24 Mar 4 11 16 17 23 25 26 29 30 Apr 7 8 12 15 16 22 27 29*  
 { During erection on board vessel - { *14 20 31 Jun 8 26 Jul 5 6 12 14 15 19 20 22 28 29 Aug 3 5 6 9 12 14 23 Nov 22 Dec 2 3 4 15 21 1915 Jan 4 17 20*  
 Total No. of visits *110 14 15* *41*

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Cylinders *4.3.15* Slides *15.7.15* Covers *15.7.15* Pistons *12.7.15* Rods *12.7.15*  
 Connecting rods *12.7.15* Crank shaft *22.4.15* Thrust shaft *20.7.15* Tunnel shafts *22.7.15* Screw shaft *4.12.15* Propeller *5.12.15*  
 Stern tube *3.8.15* Steam pipes tested *8.2.16* Engine and boiler seatings *22.11.16* Engines holding down bolts *10.2.16*  
 Completion of pumping arrangements *14.2.16* Boilers fixed *14.2.16* Engines tried under steam *14.2.16*  
 Main boiler safety valves adjusted *14.2.16* Thickness of adjusting washers *PV 32 SV 32*  
 Material of Crank shaft *Steel* Identification Mark on Do. *976N. W.* Material of Thrust shaft *Steel* Identification Mark on Do. *563 B.*  
 Material of Tunnel shafts *Iron* Identification Marks on Do. *6983WM* Material of Screw shafts *Iron* Identification Marks on Do. *6983WM*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The Engines and Boilers of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of +LMC 2.16 in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD + LMC 2.16.*

*JWR 25/2/16*

The amount of Entry Fee. . . £ *2 : 0 :* When applied for. *23/2/16*  
 Special . . . . . £ *17 : 2 :* When received. *29/2/16*  
 Donkey Boiler Fee . . . . . £ \_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_

Committee's Minute *FRI. 25 FEB. 1916*

Assigned

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

MACHINERY CERTIFICATE WRITTEN



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